

structure and method of manufacturing a finFet device having stacked fins

Abstract

The present invention provides a device structure and method of forming a finFet device having stacked fins. The method of the present invention comprises: providing a substrate with a first semiconductor layer on a first insulator layer, a second insulator layer on the first semiconductor layer, and a second semiconductor layer on the second insulator layer; forming a first fin and a second fin in the second semiconductor layer; masking the first fin; and forming a third fin in the first semiconductor layer, where the second fin is stacked on the third fin. The structure of the present invention comprises: a semiconductor substrate having a first semiconductor layer on a first insulator layer, a second insulator layer on the first semiconductor layer, and a second semiconductor layer on the second insulator layer; a first and second fin formed in the second semiconductor layer; and a third fin formed in the first semiconductor layer, where the second fin is stacked on the third fin.